Regional Security Coordination – Living the Strategy

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Regional Security Coordination – Living the Strategy

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**Where we were in the past**
- Large, steerable, and centralised generation
- One-way flow to consumers with predictable demand pattern

**Where we are now**
- Increasing proportion of small, intermittent and decentralised generation
- Bidirectional flows at all voltage levels
- Reduced thermal generation
- Increasing smart technologies

**Where we might go in the future**
- Mixed generation portfolio of distributed, CCGTs and low carbon technologies
- Suite of new technology assets & services
- Engaged, active, prosumers
- Further electrification of transport
- Smart, data-centric system
COMPLEXITY INCREASES WITH ENERGY TRANSITION

Massiver Zuwachs regenerative Einspeisung
Betriebsführungsaufgaben verändern sich grundlegend
SSM/NSM gehören zum Tagesgeschäft

Transmission Grid
- power plant
- Transformer

Distribution Grid
- CCHP
- Battery
- MV
- LV
- Prosumer

HV
MV
LV

HOW TO TACKLE COMPLEXITY?

**Implement the EU codes**
- Requirements for:
  - Generators
  - Demand side
  - HVDC connections
- Paving the way for offshore wind...

**Strengthen the grid**
- Rules for:
  - Day ahead / Intraday
  - Forwards
  - Balancing
- Market coupling...
- Regional cooperation to increase security...

**Enhance existing cooperation at all levels**
- Including links inside countries

Enabling more RES & demand response connections
- Flow based bidding zones review
- Regional security coordinators

EU

Stakeholders

National

Regional cooperation

TSOs & ENTSO-E

Distribution

Regulators & ACER
TSOs naturally regional, not national
Avoiding critical situations
The 2006 System Split

- 15 million households cut off
- 17 GW of load shed
- 300-500 M€ of economic losses due to load shedding
- > 20 GW of generation tripped or disconnected

UCTE area split into three areas 4 Nov 2006 22:10

European Awareness System, RSC Coordination, and Network Code Implementation mitigate risks of Critical Grid Situations
EU NETWORK CODES: FROM VOLUNTARY TO MANDATORY COORDINATION

MANDATORY ROLE FOR RSCS

The *System Operation Guideline* makes operational coordination mandatory through RSCs but TSOs remain responsible for security in their area.

COORDINATED SYSTEM OPERATIONS

RSCs do **regional security assessment** & propose a list of coordinated actions (SOGL Art 78).

MONITORING AND REPORTING

ENTSO-E publishes an **Annual Report on Regional Coordination** (SOGL Art 17).

COORDINATED EMERGENCY PREPAREDNESS

RSCs assess the **consistency of measures** taken by TSOs in emergency situations (E&R Art 6).
Regional cooperation: where are we now?

- Member states
- Regulators
- System Operators
- Regional Coordination Centres
- Other parties
- Decision-making triangle
- Regional TSO cooperation
- Policy regions
Regional Security Coordination

- CORESO (2008)
- TSC (2008)
- SCC (2016)
- Nordic RSC (2016)
- Baltic RSC (2016)

Started voluntarily in 2008

Extended voluntarily in all Europe as of 2015

Mandatory through EU Network Codes Sep 2017
Long term planning: > 1 year

Operational planning

Dispatch/Real time

RSCs SUPPORT TSOs IN OPERATIONAL PLANNING

Decisions taken in one timeframe influence decisions taken in other time-frames
REGIONAL COORDINATION WILL EVOLVE

Instruments for the implementation of EU network codes/ guidelines

To evolve overtime

TSOs MAINTAINING OPERATIONAL DECISION MAKING:
- Minimises risk of wide area events
- Minimises risk of cyber and terrorist attacks
- Cost control

MORE COORDINATION BRINGS:
- More security
- Optimised operation
- Economies of scale
- Market integration
- Maximised transmission capacity to markets
- Links between operational security analysis and market support functions
FTI STUDY: EVOLUTION OF REGIONAL COORDINATION & RSCS

- Full NCs & Guidelines implementation completed
- Strengthening of policy cooperation between member states / regulators

**2016**
- CORESO (2008)
- TSC (2008)
- SCC (2015)
- Baltic RSC (2016)
- SEE-Thessaloniki RSC (2016)
- Nordic RSC (2016)

**2018**
- 6 RSCs established
- RSCs operational with 5 Services

**2020**
- Enhanced Regional cooperation of TSOs

**2022 and beyond**
- Other parties
- Member States
- NRAs
IN SUMMARY

The RSCs model is mandatory under the EU Network Codes. It is dynamic and flexible. A big advantage in a fast changing power landscape!

It can be enhanced further by strong political cooperation at regional level.

It avoids unnecessary risks to the safety and security of the system.

We are open to discuss any model that reduces regulatory gaps, increases policy coordination, gives more roles to the regional level to better serve consumers without endangering security of supply.
THANK YOU FOR YOUR ATTENTION